

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-26 (cancelled).

27. (Previously Presented) An expandable medical device comprising:
a plurality of elongated beams, the plurality of elongated beams joined together to form a substantially cylindrical device which is expandable from a first diameter to a second diameter; and
a plurality of ductile hinges connecting the plurality of beams together in the substantially cylindrical device, wherein the hinge width is smaller than the beam width such that as the device is expanded from the first diameter to the second diameter the ductile hinges experience plastic deformation while the beams are not plastically deformed, each of the ductile hinges being in the shape of a curved beam having first and second arcuate surfaces facing the same direction with the second arcuate surface being larger than the first arcuate surface, the curved beams being positioned such that during expansion tensile strain is distributed along the second arcuate surface of the curved prismatic beam.
28. (Previously Presented) The expandable medical device according to Claim 27, wherein the hinge width is smaller than the hinge thickness.
29. (Previously Presented) The expandable medical device according to Claim 27, wherein the hinge width is no greater than 60% of the hinge thickness.
30. (Previously Presented) The expandable medical device according to Claim 27, wherein the hinge width is at least 50% smaller than the beam width.

31. (Previously Presented) The expandable medical device according to Claim 27, wherein the device is expandable by a balloon catheter pressurized by an inflation pressure of 1 to 5 atmospheres.

32. (Previously Presented) The expandable medical device according to Claim 27, wherein the hinge width is less than $\frac{2}{3}$ the beam width.

33. (Previously Presented) The expandable medical device according to Claim 27, wherein a transition between the cross sectional area of the struts and the cross sectional area of the ductile hinges is an abrupt transition which extends less than 10 percent of a length of a strut.

34. (Previously Presented) The expandable medical device according to Claim 27, wherein a ratio of a length of the ductile hinges to a length of the axial struts is 1:6 or less.

35. (Previously Presented) The expandable medical device according to Claim 27, wherein the elongated struts include a beneficial agent for delivery to a patient.

36. (Previously Presented) The expandable medical device according to Claim 27, wherein the ductile hinges are asymmetrically configured to reach a predetermined strain level upon a first percentage expansion and to reach the predetermined strain level upon a second percentage of compression, wherein the first percentage is larger than the second percentage.

37. (Previously Presented) The expandable medical device according to Claim 27, wherein ductile hinges are configured such that during crimping of the device onto a balloon, tensile strain is distributed along the first arcuate surface of the curved prismatic beam.

38. (Previously Presented) An expandable medical device comprising:

a plurality of elongated beams, the plurality of elongated beams joined together to form a substantially cylindrical device which is expandable from a first diameter to a second diameter; and

a plurality of ductile hinges connecting the plurality of beams together in the substantially cylindrical device, wherein the hinge width is smaller than the beam width such that as the device is expanded from the first diameter to the second diameter the ductile hinges experience plastic deformation while the beams are not plastically deformed, the ductile hinges being asymmetrically configured to reach a predetermined strain level upon a first percentage of expansion and to reach the predetermined strain level upon a second percentage of compression, wherein the first percentage is larger than the second percentage.

39. (Previously Presented) The expandable medical device according to Claim 38, wherein the ductile hinges have a first side surface placed in tension during compression of the device and a second side surface placed in tension during expansion of the device, wherein the first side surface is smaller than the second side surface.

40. (Previously Presented) The expandable medical device according to Claim 39, wherein the first side surface is an arcuate surface.

41. (Previously Presented) The expandable medical device according to Claim 39, wherein the second side surface is an arcuate surface.

42. (Previously Presented) The expandable medical device according to Claim 38, wherein the hinge width is smaller than the hinge thickness.

43. (Previously Presented) The expandable medical device according to Claim 38, wherein the hinge width is no greater than 60% of the hinge thickness.

44. (Previously Presented) The expandable medical device according to Claim 38, wherein the hinge width is at least 50% smaller than the beam width.

45. (Previously Presented) The expandable medical device according to Claim 38, wherein the device is expandable by a balloon catheter pressurized by an inflation pressure of 1 to 5 atmospheres.

46. (Previously Presented) The expandable medical device according to Claim 38, wherein the hinge width is less than $\frac{2}{3}$ the beam width.

47. (Previously Presented) The expandable medical device according to Claim 38, wherein a transition between the cross sectional area of the struts and the cross sectional area of the ductile hinges is an abrupt transition which extends less than 10 percent of a length of a strut.

48. (Previously Presented) The expandable medical device according to Claim 38, wherein a ratio of a length of the ductile hinges to a length of the axial struts is 1:6 or less.

49. (Previously Presented) The expandable medical device according to Claim 38, wherein the elongated struts include a beneficial agent for delivery to a patient.

50. (New) An expandable medical device comprising:
a plurality of elongated beams, the plurality of elongated beams joined together to form a substantially cylindrical device which is expandable from a first diameter to a second diameter; and
a plurality of ductile hinges connecting the plurality of beams together in the substantially cylindrical device, wherein the hinge width is smaller than the beam width such that as the device is expanded from the first diameter to the second diameter the ductile hinges experience plastic deformation while the beams are not plastically deformed, the ductile hinges being asymmetrically configured with a first side surface placed in compression during expansion of the device and a second side surface placed in tension during expansion of the

device, wherein the first side surface has a length smaller than a length of the second side surface.

51. (New) The expandable medical device according to Claim 50, wherein the first side surface is a concave accurate surface.

52. (New) The expandable medical device according to Claim 50, wherein the second side surface is a convex accurate surface.

53. (New) The expandable medical device according to Claim 50, wherein the hinge width is at least 50% smaller than the beam width.

54. (New) The expandable medical device according to Claim 50, wherein the hinge width is less than $\frac{2}{3}$ the beam width.

55. (New) The expandable medical device according to Claim 50, wherein a transition between the cross sectional area of the struts and the cross sectional area of the ductile hinges is an abrupt transition which extends less than 10 percent of a length of a strut.

56. (New) The expandable medical device according to Claim 50, wherein the elongated struts include a beneficial agent for delivery to a patient.